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July 30, 2010

State of California
Board of Equalization
450 N Street
Sacramento, California 94279

Document No. 21007001.1

Attention:

David Gau

Regarding:

Limited Indoor Air Quality Survey 7th Floor Pre-Occupancy Assessment

Dear Mr. Gau:

On July 19, 2010, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 7th Floor of the State of California Board of Equalization (BOE) building located at the above mentioned address. This survey was performed in response to BOE's need to reoccupy the 7th Floor subsequent to fungal growth remediation and other renovation work performed under the direction of the State of California Department of General Services (DGS) on that floor. At the time of the survey, various samples were collected and direct-reading instruments were used to assess the general indoor air quality. I have enclosed our report, which included general observations, sample and direct-reading results, a discussion of the data, conclusions, and recommendations.

If you have any comments or questions regarding the information contained in this report, please do not hesitate to contact our offices directly at (310) 370-8370.

Sincerely,

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

Brian P. Daly, CIH, PE

President

3625 Del Amo Boulevard, Suite 180 Torrance, California 90503-1643 (310) 370-8370 (310) 370-7026 FAX www.hygienetech.com

LIMITED INDOOR AIR QUALITY SURVEY PRE-OCCUPANCY ASSESSMENT – 7^{TH} FLOOR

450 N STREET SACRAMENTO, CALIFORNIA

PREPARED FOR:

STATE OF CALIFORNIA BOARD OF EQUALIZATION 450 N STREET SACRAMENTO, CALIFORNIA

PREPARED BY:

HYGIENE TECHNOLOGIES INTERNATIONAL, INC. 3625 DEL AMO BOULEVARD, SUITE 180 TORRANCE, CALIFORNIA

JULY 30, 2010



1.0 BACKGROUND

On July 19, 2010, industrial hygienists with Hygiene Technologies International, Inc. (HygieneTech) conducted a limited indoor air quality survey on the 7th Floor of the State of California Board of Equalization (BOE) building located at 450 N Street in Sacramento, California. This survey was performed in response to BOE's need to reoccupy the 7th Floor subsequent to fungal growth remediation and other renovation work performed under the direction of the State of California Department of General Services (DGS) on that floor. During the survey, a variety of samples were collected and direct-reading instruments were used to assess the general indoor air quality on the 7th Floor of the subject building. Various air samples were collected in order to assess fungal growth exposure potentials. In addition, air samples were collected throughout the floor for fibrous dust, 4-phenylcyclohexene, formaldehyde, and total dust analysis. Direct-reading instruments were also used to determine airborne volatile organic compounds (VOCs), carbon dioxide (CO₂), air temperature, and relative humidity.

2.0 OBSERVATIONS

The interior building materials of the 7th Floor included, but were not limited to, metal window frames; painted gypsum board and/or metal windowsills; metal doorjambs and door frames; painted gypsum board walls in the general work areas; tile covered walls and painted gypsum board ceilings in the restrooms; suspended 2' by 4' ceiling tiles and or gypsum board ceilings in the general work areas; ceramic or vinyl tile flooring in the restrooms and break rooms; and carpet flooring in the general work areas.

The floor was unoccupied on the survey date but was furnished with typical office desks, upholstered chairs, shelves, fabric covered cubicles, and other general office items. Note that new carpet had been installed and fresh paint had been applied throughout the floor in the weeks preceding the survey date.

3.0 SAMPLING AND ANALYSIS

Air samples were collected and subsequently analyzed for fungi (including yeasts, molds, rusts, smuts, and mushrooms) by trained and experienced microbiologists at a laboratory accredited by the American Industrial Hygiene Association (AIHA) and that successfully participates in the AIHA Environmental Microbiology Proficiency Analytical Testing (EMPAT) Program. Other samples were collected for airborne fibers, 4-phenylcyclohexene, fibers, formaldehyde, and total dust determinations using the appropriate sampling media. Pump flow rates were established and verified using a BIOS DryCal DC-Lite primary flow meter. Those samples were collected and analyzed along with blanks (identical sampling media through which no air was drawn) at laboratories accredited by the American Industrial Hygiene Association (AIHA) through successful participation in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program. Direct-reading instruments were used to determine airborne VOC levels, the results of which appear in Table 21007001-6 in Appendix A of this report. A discussion of the airborne CO₂ data, along with air temperature and relative humidity results, appears in Section 4.0 of this report. Additional information concerning the specific sampling and analytical methods appears below.



3.0 SAMPLING AND ANALYSIS (CONTINUED)

3.1 Airborne Total Fungi

Air samples for airborne total (viable and nonviable) fungi determinations were collected using a Zefon brand Bio-Pump[™] equipped with Air-O-Cell[™] cassettes. All such samples were collected at various indoor locations and two samples were collected outdoors for comparison purposes. The resultant data, which are presented in spores per cubic meter of air (spores/M³), appear in Table 21007001-1.

3.2 <u>Airborne Fibrous Dust</u>

Area air samples for fibrous dust were collected at stationary locations on 25-millimeter diameter, 0.8-micrometer pore size, mixed cellulose ester filters. The samples were analyzed by phase contrast microscopy (PCM) in accordance with the NIOSH Method 7400. These data are presented in fibers per cubic centimeter (f/cc) of air in Table 21007001-2.

3.3 Airborne Total Dust

Area air samples for total dust determination were collected at stationary locations on filter cassettes containing pre-weighed 37-millimeter diameter, polyvinyl chloride filters having a pore size of five micrometers. The samples were analyzed by gravimetric method in accordance with the NIOSH Method 0500. These data are presented in milligrams per cubic meter of air (mg/M³) and appear in Table 21007001-3.

3.4 Formaldehyde

Area air samples were collected for formaldehyde determinations using DNPH silica gel sorbent tubes. The analyses were performed by high performance liquid chromatography using an ultraviolet detector in accordance with a modified NIOSH Method 2016. These data are presented in parts per million (ppm) and appear in Table 21007001-4.

3.5 Airborne 4-Phenylcyclohexene

Area air samples for 4-phenylcyclohexene were collected on solid sorbent Carbo Trap 300 tubes equipped with Sagelock fittings and each sample was analyzed by gas chromatography with mass spectrometry detection (GC-MS) in accordance with U.S. EPA Method TO17. These data are presented in parts per billion (ppb) and appear in Table 21007001-5.

3.6 <u>Airborne Volatile Organic Compounds</u>

Direct-reading air measurements for VOCs were also recorded at various locations on the 7th Floor using a RAE Systems, Inc. Mini-RAE 2000 photoionization detector, which is capable of detecting a wide variety of unsaturated hydrocarbons at airborne concentrations ranging from 0.1 to 10,000 parts per million (ppm). Prior to the survey, this instrument was calibrated using a 100-ppm isobutylene gas standard. These data are presented in ppm.



3.0 SAMPLING AND ANALYSIS (CONTINUED)

3.7 <u>Airborne Carbon Dioxide</u>

Direct-reading air measurements for airborne CO₂ concentration was recorded at a stationary location using a Telaire[®] 7001 Carbon Dioxide and Temperature Monitor. The data are presented in ppm.

3.8 <u>Air Temperature and Relative Humidity</u>

Air temperature and relative humidity data were recorded at stationary locations using an Extech Instrument hygro-thermometer.

4.0 DISCUSSION

4.1 Airborne Total Fungi

The airborne total fungi data showed mostly common spore types outdoors such as *Alternaria*, ascospores, basidiospores, *Chaetomium*, *Cladosporium*, Epicoccum, colorless spores typical of *Penicillium* and *Aspergillus* species, *Nigrospora*, rusts, smuts, *Stemphylium*, and/or *Torula*, with *Cladosporium* predominating. Indoors, the ambient data showed that airborne fungal spores were either not detected at or above the laboratory analytical detection limit or were detected at low airborne concentrations. The common fungal spore types found indoors included basidiospores, other brown, colorless spores typical of *Penicillium* and *Aspergillus* species, rusts and/or smuts. Indoors, the distribution of fungal spore types detected in the surveyed areas was consistent with those found outdoors, and the overall data within the tested areas were well below the overall data recorded outdoors. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.

4.2 <u>Airborne Fibrous Dust</u>

The data recorded in the surveyed areas indicated that airborne fibrous dusts were not detected at or above the respective laboratory analytical detection limit of 0.003 f/cc. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data, which are expected to represent employee *exposure potentials* to fibers of various types, including man-made and natural mineral fibers, cellulosics (paper or wood composition), gypsum, and other fibrous dusts common in the environment, are well below the current Cal-OSHA 8-hour TWA PEL for asbestos fibers of 0.1 f/cc, the most restrictive exposure limit for fibrous dusts.

4.3 <u>Airborne Total Dust</u>

Common dust that is typically identified in buildings usually contains a wide variety of materials including, but not limited to, gypsum crystals, cellulosic particles, fiberglass fragments, mineral grains from soil, fungi spores, fine glass fibers, textile and wood fibers, iron or steel fragments, dead skin cells, insect parts, animal dander, and pollens. Generally, exposure to low levels of such materials



4.0 DISCUSSION (CONTINUED)

4.3 <u>Airborne Total Dust</u> (Continued)

does not produce ill effects in most persons. In fact, these so-called *nuisance dusts* have a long history of little adverse effect to the lungs and are not known to produce significant diseases or toxic effects, such as collagen (scar tissue) formation, when exposure are kept under reasonable control.

The data recorded in the surveyed areas showed that airborne total dust was not detected at or above the respective laboratory analytical detection limits of 0.23 and 0.24 mg/M³. Because the samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data are well below the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for total dust of 10 mg/M³, as defined in Title 8 of the California Code of Regulations, Section 5155 (T8, CCR § 5155). Note that these data are also well below the American Conference of Governmental Industrial Hygienists 8-hour TWA threshold limit value (TLV-TWA) for particulate (not otherwise classified) of 10 mg/M³; the U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Primary Standard of 0.26 mg/M³ (24-hour standard); and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) theoretical value for non-occupational environments of 1/10 of the TLV.

4.4 Formaldehyde

The data recorded in the surveyed areas indicated that airborne formaldehyde was detected at levels ranging from 0.007 to 0.01 ppm. Because these samples were collected at stationary locations at approximate breathing zone height, the resultant data are expected to represent building occupant *exposure potentials* for those persons working in or passing through the areas monitored. These data are well below the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) 8-hour time-weighted average (TWA) permissible exposure limit (PEL) for Formaldehyde of 0.75 ppm, as defined in Title 8 of the California Code of Regulations, Section 5155 (T8, CCR § 5155).

4.5 Airborne 4-Phenylcyclohexene

The airborne data indicated that 4-phenylcyclohexene was detected at levels ranging from 0.14 to 0.34 ppbv. Although current standards or guidelines have not been established for 4-phenylcyclohexene at the time of this report, all such data are considered unremarkable.

4.6 Airborne Volatile Organic Compounds

With the use of a direct-reading photoionization detector, VOCs were detected at peak levels ranging from 0.1 to 0.3 ppm, with average levels that did not exceed the analytical detection limit of 0.1 ppm. Because these data were recorded at various locations at approximate breathing zone height, the results are expected to represent building occupant *exposure* potentials for those persons occupying or passing through the areas monitored. These data were well below the surrogate Cal-OSHA PELs that are often used for comparative purposes regarding VOC exposures, such as those for gasoline, hexane, and varnish makers and painters (VM&P) naphtha.



4.0 DISCUSSION (CONTINUED)

4.7 Airborne Carbon Dioxide

The direct-reading results indicated that CO_2 was detected at levels ranging from 484 to 614 ppm on the 7th Floor. While these data were somewhat higher than the expected outdoor CO_2 levels, which generally range between 320 and 350 ppm, they are considered normal for indoor environments and they are all well below the Cal-OSHA 8-hour TWA PEL for CO_2 of 5000 ppm (T8, CCR, § 5155). They are also below the level of 1000 ppm, which is essentially equivalent to the recommended upper limit for building occupant comfort and odor control established by ASHRAE (not greater than 700 ppm above the outdoor CO_2 value) as stated in ASHRAE 62-2001.

Based on historic studies performed by HygieneTech, building occupant complaints of "stuffy" air often begin when CO₂ levels exceed 800 ppm. HygieneTech has also found that some sensitive persons may experience discomfort, including eye irritation and headache, when CO₂ levels reach 1,000 ppm. Such symptoms are not believed to be the result of an unhealthful exposure to CO₂; rather, they are thought to be the result of exposure to other common indoor air pollutants which, if not exhausted and/or diluted, can accumulate over time.

4.8 Air Temperature and Relative Humidity

The recorded air temperatures ranged between 71.4 and 75.3 degrees Fahrenheit (°F). Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer).

Relative humidity data were recorded indoors at levels ranging from 33.1 to 43.9 percent. Such levels were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.

5.0 CONCLUSIONS

- 5.1 The airborne total fungi data recorded in the surveyed areas showed airborne fungi levels that were well below those recorded outdoors and therefore considered unremarkable. These data are not believed to pose a health risk beyond that posed by the outdoor environment where exposures to airborne fungi are expected.
- 5.2 The airborne total and fibrous dust, 4-phenylcyclohexene, formaldehyde, VOC, and C0₂ levels recorded during the survey were unremarkable. Collectively, the data were well below applicable Cal-OSHA 8-hour TWA PELs and/or other occupational, non-occupational, ASHRAE, or foreign guidelines. The data are not expected to represent conditions that pose a measurable health risk to the building occupants.



5.0 CONCLUSIONS (CONTINUED)

- 5.3 The air temperatures ranged between 71.4 and 75.3 degrees Fahrenheit (°F). Based on the experience of HygieneTech, the air temperatures perceived as comfortable by most persons in office environments, and recommended by ASHRAE for occupant comfort, range between 68.0 and 74.5°F (winter) and 73.0 and 79.0°F (summer). Relative humidity data were recorded indoors at levels ranging from 33.1 to 43.9 percent. Such levels were well within the 20 to 60 percent relative humidity level range recommended by ASHRAE for occupant comfort. Note that HygieneTech recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.
- 5.4 Be advised that the data provided in this report only represent fungal growth exposure potentials that existed at the time the survey was performed and at the precise sample locations only, the latter of which were selected based on the available background information provided. Note that fungal growth and exposure potentials may change due to changes in environmental conditions (such as those caused by water intrusion), use of mechanical systems, or other factors. Also be advised that additional fungal growth may exist at one or more locations in the structure that were not specifically assessed during the survey.

6.0 RECOMMENDATIONS

All such recommendations are based strictly on the assessment information and analytical data that were available to HygieneTech at the time this report was prepared. Be advised that, in order to establish data that accurately reflects all the fungal growth sites on the 7th Floor, additional assessment evaluations may be required as more information is known regarding the history of water intrusion episodes in discrete building areas.

- 6.1 Additional fungal growth remediation is potentially required within the core of the 7th Floor due to known fungal growth reservoirs confirmed in similar areas on other floors during destructive testing, as stated by LaCroix Davis, LLC in their *California State Board of Equalization Building Assessment Final Report* dated February 29, 2009. The purpose of this assessment was to allow the BOE to safely reoccupy the 7th Floor. Until such time that these confirmed fungal growth and perhaps other unknown reservoirs are remediated within the structure, it is highly likely that complaints related to fungal growth-like odors, which has been a common concern on several floor, will continue to be an issue. The HygieneTech investigation into the odor complaints, conclusions, and recommendations can be found in HygieneTech Document No. 20903001.1 dated May 4, 2009.
- 6.2 Air Temperatures levels on the 7th Floor should be adjusted to the appropriate ranges recommended by ASHRAE for occupant comfort once it is occupied by BOE staff.
- 6.3 If not yet established, an accurate record of all air monitoring results should be maintained in accordance with Cal-OSHA regulation found in T8, CCR § 3204. All affected employees should be informed that the *exposure potential* data in this report exist and that those persons, or their representatives, have a right to access relevant exposure data and medical records.



RECOMMENDATIONS (CONTINUED) 6.0

6.4 Also be advised that the exposure data recorded during the survey may not be sufficiently broad to adequately assess the suitability of the indoor air quality for all individuals, particularly those who are extremely sensitive to certain chemical and/or biological substances or for those individuals with immune system deficiencies. Although not expected, if persons occupying or passing through the 7th Floor do experience non-specific ill effects of unknown etiology, then those affected should be referred to a medical professional in order to determine or specify the possible cause(s) of such reactions. If more information becomes available, further investigation and air monitoring may be warranted.

HYGIENE TECHNOLOGIES INTERNATIONAL, INC.

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Kenny K	. Hsi, CIH
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Date: July 30, 2010

Technical Director

Brian P. Daly, CIH, PE

President

Date: July 30, 2010



CLIENT: State of California Board of Equalization 450 N Street Sacramento, California 94279

TABLE 21007001-1 **AIRBORNE TOTAL FUNGI RESULTS** 7TH FLOOR SACRAMENTO, CALIFORNIA **JULY 19, 2010**

Page 1

	sults reported in spore			
SAMPLE NUMBER	21007001-1 TM01OUTLS	21007001-1 TM02LS	21007001-1 TM03LS	21007001-1 TM04LS
SAMPLING LOCATION/ACTIVITIES	Outdoors; about 15 feet east of building; approximately five feet above ground/Normal outdoor activities	Column K22 area; Cubicle 51; about center; approximately five feet above floor/ Sampling activities only	Area between Column L22 and L23; Cubicle 87; entry way; approximately five feet above floor/Sampling activities only	Column N22 area; Cubicle 120; entry way; approximately five feet above floor/Sampling activities only
START/STOP	09:41:00/09:46:00	09:58:00/10:03:00	10:08:00/10:13:00	10:21:00/10:26:00
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes
Alternaria	27			
Arthrinium				
Ascospores	210			
Aureobasidium				
Basidiospores	1,300	53	53	
Bipolaris/Drechslera group				
Botrytis				
Chaetomium	13			
Cladosporium	1,800			
Curvularia				
Epicoccum	13			
Fusarium				
Myrothecium				
Nigrospora	13			
Other brown				
Penicillium/Aspergillus types	850			53
Pithomyces				
Rusts	27			
Smuts, Periconia, Myxomycetes	290			
Stachybotrys				
Stemphylium				
Torula	13			
Trichocladium				
Ulocladium				
Hyphal fragments	93	<13	<13	<13
Background debris*	3+	1+	1+	1+
TOTAL **	4,500	53	53	53

^{*}Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

^{**}Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.



CLIENT: State of California Board of Equalization 450 N Street Sacramento, California 94279

TABLE 21007001-1 **AIRBORNE TOTAL FUNGI RESULTS** 7TH FLOOR SACRAMENTO, CALIFORNIA **JULY 19, 2010**

Page 2

Results reported in spores per cubic meter of air (spores/M ³)									
	21007001-1 TM05LS	21007001-1 TM06LS	21007001-1 TM07LS	21007001-1 TM08LS					
SAMPLING LOCATION/ACTIVITIES	Column O20 area; Cubicle 130; about center; approximately five feet above floor/Sampling activities only	Column N18 area; Room 712; about center; approximately five feet above floor/Sampling activities only	Area between Column L18 and M18; Cubicle 173; entry way; approximately five feet above floor/Sampling activities only	Column K18 area; Cubicle 39; entry way; approximately five feet above floor/Sampling activities only					
START/STOP	10:28:00/10:33:00	10:35:00/10:40:00	10:42:00/10:47:00	10:49:00/10:54:00					
SAMPLE TIME	5 minutes	5 minutes	5 minutes	5 minutes					
Alternaria									
Arthrinium									
Ascospores									
Aureobasidium									
Basidiospores				53					
Bipolaris/Drechslera group									
Botrytis									
Chaetomium									
Cladosporium									
Curvularia									
Epicoccum									
Fusarium									
Myrothecium									
Nigrospora									
Oidium									
Other brown									
Penicillium/Aspergillus types		110							
Pithomyces									
Rusts	13								
Smuts, Periconia, Myxomycetes	13			13					
Stachybotrys									
Stemphylium									
Torula									
Trichocladium									
Ulocladium									
Hyphal fragments	<13	13	<13	<13					
Background debris*	1+	1+	1+	1+					
TOTAL **	27	110	<13	67					

^{*}Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

^{**}Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.



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TABLE 21007001-1 **AIRBORNE TOTAL FUNGI RESULTS** 7TH FLOOR SACRAMENTO, CALIFORNIA **JULY 19, 2010**

Page 3

		s per cubic meter of air	r (spores/M³)	
SAMPLE NUMBER	21007001-1 TM09LS	21007001-1 TM10OUTLS		
SAMPLING LOCATION/ACTIVITIES	Column J20 area; Cubicle 73; about center; approximately five feet above floor/Sampling activities only	Outdoors; about 10 feet west of building; approximately five feet above ground/Normal outdoor activities	This column intentionally left blank	This column intentionally left blank
START/STOP	10:56:00/11:01:00	11:09:00/11:14:00		
SAMPLE TIME	5 minutes	5 minutes		
Alternaria		53		
Arthrinium				
Ascospores		1,400		
Aureobasidium				
Basidiospores	53	1,400		
Bipolaris/Drechslera group				
Botrytis				
Chaetomium		13		
Cladosporium		1,900		
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Oidium				
Other brown	13			
Penicillium/Aspergillus types		1,000		
Pithomyces				
Rusts		53		
Smuts, Periconia, Myxomycetes	13	320		
Stachybotrys				
Stemphylium		27		
Torula		53		
Trichocladium				
Ulocladium				
Hyphal fragments	13	93		
Background debris*	1+	3+		
TOTAL **	80	6,300		

^{*}Background debris is an indication of the amount of non-biological particulate matter present on the slide and is graded (from least to greatest) as 1+ to 4+.

^{**}Note that all reported counts have been rounded to no more than two significant figures based on the sampling and analytical methods used, and therefore the total count may not equal the sum of the individual counts in a column.

APPENDIX A



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TABLE 21007001-2 AIRBORNE FIBERS RESULTS 7TH FLOOR SACRAMENTO, CALIFORNIA JULY 19, 2010

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (f/cc)	PEL (f/cc)
Area Sample	Column K22 area; Cubicle 81; entry way; approximately five feet above floor/Sampling activities only	N/A	21007001-2 F01	08:50/ 12:51	241 minutes	Fibers	<0.003	0.1
Area Sample	Column K20 area; Cubicle 33; entry way; approximately five feet above floor/Sampling activities only	N/A	21007001-2 F02	08:54/ 12:54	240 minutes	Fibers	<0.003	0.1
Area Sample	Area between Column O20 and N20; Cubicle 137; entry way; approximately five feet above floor/Sampling activities only	N/A	21007001-2 F03	12:53/ 16:54	241 minutes	Fibers	<0.003	0.1
Area Sample	Column L17 area; Cubicle 6; entry way; approximately five feet above floor/Sampling activities only	N/A	21007001-2 F04	12:56/ 16:56	240 minutes	Fibers	<0.003	0.1
Blank	N/A	N/A	21007001-2 F05BLANK	N/A	N/A	Fibers	All data blank corrected	N/A

LEGEND

PPE: Personal protective equipment

N/A: Not applicable

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

<: Less than

f/cc: Fibers per cubic centimeter of air

APPENDIX A



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450 N Street
Sacramento, California 94279

TABLE 21007001-3
AIRBORNE TOTAL DUST RESULTS
7TH FLOOR
SACRAMENTO, CALIFORNIA
JULY 19, 2010

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (mg/M³)	PEL (mg/M³)
Area Sample	Column K22 area; Cubicle 81; entry way; approximately five	N/A	21007001-3	08:50/	214	Total Dust	<0.23	10
	feet above floor/Sampling activities only		TD01	12:24	minutes			
Area Sample	Column K20 area; Cubicle 33; entry way; approximately five	N/A	21007001-3	08:52/	217	Total Dust	<0.23	10
	feet above floor/Sampling activities only		TD02	12:29	minutes			
Area Sample	Area between Column O20 and N20; Cubicle 137; entry way;	N/A	21007001-3	12:26/	210	Total Dust	<0.24	10
	approximately five feet above floor/Sampling activities only		TD03	15:56	minutes			
Area Sample	Column L17 area; Cubicle 06; entry way; approximately five feet	N/A	21007001-3	12:30/	210	Total Dust	<0.24	10
	above floor/Sampling activities only		TD04	16:00	minutes			
Blank	N/A	N/A	21007001-3	N/A	N/A	Total Dust	All data blank	N/A
			TD05BLANK				corrected	

LEGEND

PPE: Personal protective equipment

N/A: Not applicable

mg/M³: Milligrams per cubic meter

<: Less than

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

APPENDIX A



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TABLE 21007001-4
AIRBORNE FORMALDEHYDE RESULTS
7TH FLOOR
SACRAMENTO, CALIFORNIA
JULY 19, 2010

NAME/ REFERENCE	LOCATION/ ACTIVITIES	PPE USED	SAMPLE NUMBER	START/ STOP	SAMPLE TIME	CONTAMINANT	RESULTS (ppm)	PEL (ppm)
Area Sample	Column K22 area; Cubicle 81; entry way; approximately five	N/A	21007001-4	14:35/	75	Formaldehyde	0.01	0.75
	feet above floor/Sampling activities only		FO01	15:50	minutes			
Area Sample	Column K20 area; Cubicle 33; entry way; approximately five	N/A	21007001-4	14:35/	75	Formaldehyde	0.01	0.75
	feet above floor/Sampling activities only		FO02	15:50	minutes			
Area Sample	Column L17 area; Cubicle 6; entry way; approximately five feet	N/A	21007001-4	15:54/	75	Formaldehyde	0.007	0.75
	above floor/Sampling activities only		FO03	17:09	minutes			
Area Sample	Area between Column O20 and N20; Cubicle 137; entry way;	N/A	21007001-4	15:56/	75	Formaldehyde	0.01	0.75
•	approximately five feet above floor/Sampling activities only		FO04	17:11	minutes			
Blank	N/A	N/A	21007001-4	N/A	N/A	Formaldehyde	All data blank	N/A
			FO05BLANK				corrected	

LEGEND

PPE: Personal protective equipment

N/A: Not applicable ppm: Parts per million

<: Less than

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

Sacramento, California 94279

APPENDIX A

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450 N Street

TABLE 21007001-5
AIRBORNE 4-PHENYLCYCLOHEXENE RESULTS
7TH FLOOR
SACRAMENTO, CALIFORNIA
JULY 19, 2010

NAME/	LOCATION/	PPE	SAMPLE	START/	SAMPLE		RESULTS	PEL
REFERENCE	ACTIVITIES	USED	NUMBER	STOP	TIME	CONTAMINANT	(ppb)	(ppb)
Area Sample	Column K22 area, Quiet Room 703; southwestern corner;	N/A	21007001-5	08:38/	347	4-Phenylcyclohexene	0.34	N/A
	approximately three feet above floor/Sampling activities only		PCH01	14:25	minutes			
Area Sample	Column N20 area; Conference Room 711; northeastern	N/A	21007001-5	08:41/	348	4-Phenylcyclohexene	0.14	N/A
	corner; approximately five feet above floor/Sampling activities		PCH02	14:29	minutes			
	only							

LEGEND

PPE: Personal protective equipment

N/A: Not applicable PPB: Parts per billion

<: Less than

PEL: Cal-OSHA 8-hour time-weighted average permissible exposure limit

CLIENT: State of California
Board of Equalization

450 N Street

Sacramento, California 94279



TABLE 21007001-6
DIRECT-READING RESULTS
7TH FLOOR
SACRAMENTO, CALIFORNIA
JULY 19, 2010

LOCATION/SITE ACTIVITIES	SAMPLE TIME	CONTAMINANT	RESULTS (ppm)	COMMENTS
Southern quadrant; approximately five feet above floor/Sampling activities only	10:46/10:56	Volatile Organic Compounds	Average: <0.1 Peak: 0.2	N/A
Western quadrant; approximately five feet above floor/Sampling activities only	10:58/11:08	Volatile Organic Compounds	Average: <0.1 Peak: 0.3	N/A
Northern quadrant; approximately five feet above floor/Sampling activities only	11:12/11:22	Volatile Organic Compounds	Average: <0.1 Peak: 0.1	N/A
Eastern quadrant; approximately five feet above floor/Sampling activities only	11:25/11:35	Volatile Organic Compounds	Average: <0.1 Peak: <0.1	N/A

ND: Not detected <: Less than

N/A: Not applicable ppm: Parts per million



Report for:

Mr. Wesley Frey, Mr. Larry Sandhu Hygiene Technologies International, Inc.: Northern California 3625 Del Amo Boulevard, Suite 180 Torrance, CA 90503-8370

Regarding: Project: 21007001-1 EML ID: 680666

Approved by:

Lab Manager Malcolm Moody Dates of Analysis:

Spore trap analysis: 07-20-2010

Service SOPs: Spore trap analysis (I100000)

For clarity, we report the number of significant digits as calculated; but, due to the nature of this type of biological data, the number of significant digits that is used for interpretation should generally be one or two. All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank corrections of results is not a standard practice. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Document Number: 200091 - Revision Number: 5

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		7001-1- OUTLS		7001-1- 102LS		7001-1- 103LS		7001-1- 104LS	
Comments (see below)		Vone	None		None		None		
Lab ID-Version‡:	301	8281-1	301	8282-1	301	8283-1	301	3018284-1	
	raw ct.	spores/m3							
Alternaria	2	27		_		_		_	
Arthrinium									
Ascospores*	4	210							
Aureobasidium									
Basidiospores*	24	1,300	1	53	1	53			
Bipolaris/Drechslera group		,							
Botrytis									
Chaetomium	1	13							
Cladosporium	33	1,800							
Curvularia		,							
Epicoccum	1	13							
Fusarium									
Myrothecium									
Nigrospora	1	13							
Other brown									
Penicillium/Aspergillus types†	16	850					1	53	
Pithomyces									
Rusts*	2	27							
Smuts*, Periconia, Myxomycetes*	22	290							
Stachybotrys									
Stemphylium									
Torula	1	13							
Ulocladium									
Background debris (1-4+)††	3+		1+		1+		1+		
Hyphal fragments/m3	93		< 13		< 13		< 13		
Pollen/m3	80		< 13		< 13		< 13		
Skin cells (1-4+)	< 1+		1+		1+		1+		
Sample volume (liters)	75		75		75		75		
§ TOTAL SPORES/m3		4,500		53		53		53	

Comments:

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

^{*} Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

^{††}Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

[‡] A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:		7001-1- I05LS		7001-1- 106LS		7001-1- 107LS		7001-1- 108LS
Comments (see below)		Vone	None		A		None	
Lab ID-Version‡:	301	8285-1	301	8286-1	301	8287-1	301	8288-1
	raw ct.	spores/m3						
Alternaria		_		_		_		
Arthrinium								
Ascospores*								
Aureobasidium								
Basidiospores*							1	53
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium								
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other brown								
Penicillium/Aspergillus types†			2	110				
Pithomyces								
Rusts*	1	13						
Smuts*, Periconia, Myxomycetes*	1	13					1	13
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Background debris (1-4+)††	1+		1+		1+		1+	
Hyphal fragments/m3	< 13		13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		27		110		< 13		67

Comments: A) No spores detected.

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

^{*} Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecillomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

^{††}Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

[‡] A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.: Date of Sampling: 07-19-2010 Northern California Date of Receipt: 07-19-2010

Northern California Date of Receipt: 07-19-2010 C/O: Mr. Wesley Frey, Mr. Larry Sandhu Date of Report: 07-20-2010

Re: 21007001-1

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	2100700	1-1-TM09LS	21007001-1	21007001-1-TM10OUTLS			
Comments (see below)]	None	N	Vone			
Lab ID-Version‡:	301	18289-1	3018290-1				
	raw ct.	spores/m3	raw ct.	spores/m3			
Alternaria			4	53			
Arthrinium							
Ascospores*			27	1,400			
Aureobasidium				,			
Basidiospores*	1	53	27	1,400			
Bipolaris/Drechslera group				,			
Botrytis							
Chaetomium			1	13			
Cladosporium			35	1,900			
Curvularia				, , , , , , , , , , , , , , , , , , ,			
Epicoccum							
Fusarium							
Myrothecium							
Nigrospora							
Other brown	1	13					
Other colorless							
Penicillium/Aspergillus types†			19	1,000			
Pithomyces				,			
Rusts*			4	53			
Smuts*, Periconia, Myxomycetes*	1	13	24	320			
Stachybotrys							
Stemphylium			2	27			
Torula			4	53			
Ulocladium							
Zygomycetes							
Background debris (1-4+)††	1+		3+				
Hyphal fragments/m3	13		93				
Pollen/m3	13		130				
Skin cells (1-4+)	1+		< 1+				
Sample volume (liters)	75		75				
§ TOTAL SPORES/m3		80		6,300			

Comments:

The Limit of Detection is the product of a raw count of 1 and 100 divided by the percent read. The analytical sensitivity (counts/m3) is the product of the Limit of Detection and 1000 divided by the sample volume.

^{*} Most of these spore types are not seen with culturable methods (Andersen sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores while the rusts and smuts are plant pathogens.

[†] The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecillomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

^{††}Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

[‡] A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldRANGETM: Extended Outdoor Comparison Outdoor Location: 21007001-1-TM01OUTLS

Fungi Identified	Outdoor	Туріса	al Outdoo	or Data by	Date†	Typical	Outdoor	Data by L	ocation‡	
	data		Month: July				State: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %	
Generally able to grow indoors*										
Alternaria	27	7	40	490	66	7	27	220	54	
Bipolaris/Drechslera group	-	7	13	260	22	7	13	130	13	
Chaetomium	13	7	13	130	15	7	13	120	19	
Cladosporium	1,800	53	760	10,000	97	53	590	7,200	97	
Curvularia	-	7	27	760	22	7	13	230	7	
Epicoccum	13	7	20	310	33	7	13	160	19	
Nigrospora	13	7	13	190	15	7	13	180	8	
Penicillium/Aspergillus types	850	27	210	2,600	80	33	210	2,400	85	
Stachybotrys	-	7	13	340	4	7	13	250	5	
Stemphylium	-	7	13	53	6	7	13	67	8	
Torula	13	7	13	160	15	7	13	160	12	
Seldom found growing indoors**										
Ascospores	210	13	250	6,700	84	13	110	2,000	70	
Basidiospores	1,300	13	430	23,000	94	13	210	8,400	92	
Rusts	27	7	13	250	24	7	13	250	26	
Smuts, Periconia, Myxomycetes	290	7	53	1,900	78	8	40	520	68	
§ TOTAL SPORES/m3	4,500	·								

[†] The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

[‡] The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldRANGETM: Extended Outdoor Comparison Outdoor Location: 21007001-1-TM10OUTLS

Fungi Identified	Outdoor	Туріса	al Outdoo	or Data by	Date†	Typical	Outdoor	Data by L	ocation‡	
	data		Month: July				State: CA			
	spores/m3	low	med	high	freq %	low	med	high	freq %	
Generally able to grow indoors*										
Alternaria	53	7	40	490	66	7	27	220	54	
Bipolaris/Drechslera group	-	7	13	260	22	7	13	130	13	
Chaetomium	13	7	13	130	15	7	13	120	19	
Cladosporium	1,900	53	760	10,000	97	53	590	7,200	97	
Curvularia	-	7	27	760	22	7	13	230	7	
Epicoccum	-	7	20	310	33	7	13	160	19	
Nigrospora	-	7	13	190	15	7	13	180	8	
Penicillium/Aspergillus types	1,000	27	210	2,600	80	33	210	2,400	85	
Stachybotrys	-	7	13	340	4	7	13	250	5	
Stemphylium	27	7	13	53	6	7	13	67	8	
Torula	53	7	13	160	15	7	13	160	12	
Seldom found growing indoors**										
Ascospores	1,400	13	250	6,700	84	13	110	2,000	70	
Basidiospores	1,400	13	430	23,000	94	13	210	8,400	92	
Rusts	53	7	13	250	24	7	13	250	26	
Smuts, Periconia, Myxomycetes	320	7	53	1,900	78	8	40	520	68	
§ TOTAL SPORES/m3	6,300									

[†] The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

[‡] The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

[§] Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

880 Riverside Parkway, West Sacramento, CA 95605 (866) 888-6653 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSTATTM: Supplementary Statistical Spore Trap Report

Outdoor Summary: 21007001-1-TM01OUTLS:

Species detected		Outdoor	r sample s _l	pores/m3	Typical	Typical outdoor ranges		Freq.
	<100	1K	10K	>100K	(No	rth An	nerica)	%
Alternaria				27	7 -	27	- 410	49
Ascospores				210] 13 -	160	- 5,100	76
Basidiospores				1,300] 13 -	330	- 17,000	91
Chaetomium				13	7 -	13	- 150	11
Cladosporium				1,800	27 -	480	- 9,200	92
Epicoccum				13] 7 -	20	- 340	25
Nigrospora				13] 7 -	13	- 210	15
Penicillium/Aspergillus types				850	20 -	190	- 2,500	77
Rusts				27] 7 -	13	- 310	21
Smuts, Periconia, Myxomycetes				290] 7 -	40	- 840	67
Torula				13] 7 -	13	- 170	11
Total				4,507				

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 21007001-1-TM02LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ement ratio** oor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	R	esult: 0.1667	dF: 11 Result: 0.6000 Critical value: 0.5273 Outside Similar: Yes	Score: 104 Result: Low
Species	Detected	Spores/m3			
		<100	1K	10K	>100K
	Basidiospores				53
	Total				53

880 Riverside Parkway, West Sacramento, CA 95605 (866) 888-6653 Fax (650) 829-5852 www.emlab.com

Date of Sampling: 07-19-2010

Client: Hygiene Technologies International, Inc.:

Northern California

Date of Receipt: 07-19-2010 C/O: Mr. Wesley Frey, Mr. Larry Sandhu Date of Report: 07-20-2010

Re: 21007001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 21007001-1-TM03LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreemen (indoor/o		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result: ().1667	dF: 11 Result: 0.6000 Critical value: 0.5273 Outside Similar: Yes	Score: 104 Result: Low		
Species 1	Species Detected		Spores/m3				
		<100	1K	10K	>100K		
	Basidiospores				53		
	Total				53		

Location: 21007001-1-TM04LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ent ratio** /outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Resul	t: 0.1667	dF: 11 Result: 0.5500 Critical value: 0.5273 Outside Similar: Yes	Score: 107 Result: Low
Species 1	Detected	Spores/m3			
		<100	1K	10K	>100K
Penic	illium/Aspergillus types Total				53

Location: 21007001-1-TM05LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: < 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result: 0.3077	dF: 11 Result: 0.3750 Critical value: 0.5273 Outside Similar: No	Score: 102 Result: Low	
Species	Detected	100	Spores/m3	10017	
Rusts Smuts, Periconia, Myxomycetes			10K	>100K	
	Total			27	

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Date of Sampling: 07-19-2010

Client: Hygiene Technologies International, Inc.:

Northern California

Date of Receipt: 07-19-2010 C/O: Mr. Wesley Frey, Mr. Larry Sandhu Date of Report: 07-20-2010

Re: 21007001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 21007001-1-TM06LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement (indoor/ou		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)	
Result: 2%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result: 0.	1667	dF: 11 Result: 0.5500 Critical value: 0.5273 Outside Similar: Yes	Score: 114 Result: Low	
Species	Detected	Spores/m3				
		<100	1K	10K	>100K	
Penicillium/Aspergillus types					110	
	Total				107	

Location: 21007001-1-TM07LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)			
Result: < 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low			
Species 1	Species Detected		Spores/m3				
		<100 1K	10K	>100K			
	None Detected			N/A			

Location: 21007001-1-TM08LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio		MoldSCORE**** (indoor/outdoor)	
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result: 0.3077	dF: 11 Result: 0.6068 Critical value: 0.5273 Outside Similar: Yes	Score: 104 Result: Low	
Species	Species Detected		Spores/m3	>100K	
Basidiospores Smuts, Periconia, Myxomycetes Total				53 13 67	

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 21007001-1-TM09LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		nt ratio** outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result:	0.2857	dF: 12 Result: 0.3357 Critical value: 0.4965 Outside Similar: No	Score: 107 Result: Low
Species	Detected			Spores/m3	
		<100	1K	10K	>100K
	Basidiospores				53
	Other brown				13
Smuts, F	Smuts, Periconia, Myxomycetes				13
	Total				80

^{*} The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

**** MoldSCORETM is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

^{**} An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

^{***} The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

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Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSTATTM: Supplementary Statistical Spore Trap Report

Outdoor Summary: 21007001-1-TM10OUTLS:

Species detected		Outdoor	r sample s	pores/m3	Typical	Typical outdoor ranges		
	<100	1K	10K	>100K	(Nor	th Am	erica)	%
Alternaria				53	7 -	27	- 410	49
Ascospores				1,400] 13 -	160	- 5,100	76
Basidiospores				1,400] 13 -	330	- 17,000	91
Chaetomium				13] 7 -	13	- 150	11
Cladosporium				1,900] 27 -	480	- 9,200	92
Penicillium/Aspergillus types				1,000] 20 -	190	- 2,500	77
Rusts				53] 7 -	13	- 310	21
Smuts, Periconia, Myxomycetes				320] 7 -	40	- 840	67
Stemphylium				27] 7 -	13	- 67	4
Torula				53] 7 -	13	- 170	11
Total				6,280]			

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurrence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 21007001-1-TM02LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ement ratio** oor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Re	esult: 0.1818	dF: 10 Result: 0.5606 Critical value: 0.5515 Outside Similar: Yes	
Species 1	Detected			Spores/m3	
		<100	1K	10K	>100K
	Basidiospores				53
	Total				53

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Date of Sampling: 07-19-2010

Client: Hygiene Technologies International, Inc.:

Northern California

Date of Receipt: 07-19-2010 C/O: Mr. Wesley Frey, Mr. Larry Sandhu Date of Report: 07-20-2010

Re: 21007001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 21007001-1-TM03LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		ement ratio** oor/outdoor)	corre	nan rank lation*** r/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Re	esult: 0.1818	Resul Critical v	F: 10 lt: 0.5606 value: 0.5515 Similar: Yes	Score: 104 Result: Low
Species	Detected			Spo	res/m3	
		<100	1K		10K	>100K
	Basidiospores					53
	Total					53

Location: 21007001-1-TM04LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		nent ratio** or/outdoor)	Spearman ra correlation (indoor/outd	***	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Resu	ılt: 0.1818	dF: 10 Result: 0.469 Critical value: 0 Outside Similar	.5515	Score: 107 Result: Low
Species 1	Detected			Spores/m	3	
		<100	1K	1	0K	>100K
Penic	illium/Aspergillus types					53
	Total					53

Location: 21007001-1-TM05LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		eement ratio** loor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)			
Result: < 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	F	Result: 0.3333	dF: 10 Result: 0.2121 Critical value: 0.5515 Outside Similar: No	Score: 102 Result: Low			
Species	Detected	100	177	Spores/m3	10017			
Smuts, F	Rusts Periconia, Myxomycetes		1K	10K	>100K 13 13			
,	Total				27			

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Date of Sampling: 07-19-2010

Client: Hygiene Technologies International, Inc.:

Northern California

Date of Receipt: 07-19-2010 C/O: Mr. Wesley Frey, Mr. Larry Sandhu Date of Report: 07-20-2010

Re: 21007001-1

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 21007001-1-TM06LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		nent ratio** or/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)		
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Resi	alt: 0.1818	dF: 10 Result: 0.4697 Critical value: 0.5515 Outside Similar: No	Score: 115 Result: Low		
Species	Detected			Spores/m3			
		<100	1K	10K	>100K		
Penic	illium/Aspergillus types				110		
	Total				107		

Location: 21007001-1-TM07LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: < 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result: 0.0000	dF: N/A Result: N/A Critical value: N/A Outside Similar: N/A	Score: 100 Result: Low
Species 1	Detected		Spores/m3	
		<100 1K	10K	>100K
	None Detected			N/A

Location: 21007001-1-TM08LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)		nent ratio** or/outdoor)	Spearma correlat (indoor/o	tion***	MoldSCORE**** (indoor/outdoor)		
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Res	ult: 0.3333	dF: Result: Critical val Outside Si	0.4970 ue: 0.5515	Score: 104 Result: Low		
Species	Detected			Spore				
		<100	1K		10K	>100K		
	Basidiospores					53		
Smuts, Periconia, Myxomycetes						13		
	Total					67		

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSTATTM: Supplementary Statistical Spore Trap Report

Location: 21007001-1-TM09LS

% of outdoor total spores/m3	Friedman chi- square* (indoor variation)	Agreement ratio** (indoor/outdoor)		Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)			
Result: 1%	dF: 7 Result: 3.1500 Critical value: 14.0671 Inside Similar: Yes	Result:	0.3077	dF: 11 Result: 0.2295 Critical value: 0.5273 Outside Similar: No	Score: 107 Result: Low			
Species	Detected			Spores/m3				
		<100	1K	10K	>100K			
	Basidiospores				53			
	Other brown				13			
Smuts, Periconia, Myxomycetes					13			
	Total				80			

^{*} The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

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^{**} An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

^{***} The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

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Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSCORETM: Spore Trap Report

Outdoor Sample: 21007001-1-TM01OUTLS

Fungi Identified	Ou	ıtd	oor	sam	ple	sp	ore	s/r	n3	Raw	Spores/
_	<100	О		1K		101	K	>1	00K	count	m3
Generally able to grow indoors*											
Alternaria										2	27
Bipolaris/Drechslera group										ND	< 13
Chaetomium					Ш					1	13
Cladosporium					Ш					33	1,800
Curvularia										ND	< 13
Epicoccum					Ш					1	13
Nigrospora										1	13
Penicillium/Aspergillus types†										16	850
Stachybotrys										ND	< 13
Torula										1	13
Seldom found growing indoors**											
Ascospores††					Ш					4	210
Basidiospores††					Ш					24	1,300
Rusts										2	27
Smuts, Periconia, Myxomycetes††										22	290
Total											4,507

Location: 21007001-1-TM02LS

Fungi Identified	In	do	or	sam	ple	\mathbf{S}	por	es/i	m3		Raw	Spores/
	<100			1K			10K	:	>100	K	count	m3
Generally able to grow indoors*												
Alternaria											ND	< 13
Bipolaris/Drechslera group									Ш		ND	< 13
Chaetomium									Ш		ND	< 13
Cladosporium											ND	< 13
Curvularia											ND	< 13
Nigrospora											ND	< 13
Penicillium/Aspergillus types†											ND	< 13
Stachybotrys											ND	< 13
Torula											ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											1	53
Rusts											ND	< 13
Smuts, Periconia, Myxomycetes††											ND	< 13
Total												53

100	100 MoldSCORE 200 300									
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			100							
			104							
			100							
			100							
Fina	Final MoldSCORE									

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Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

< 13

53

MoldSCORETM: **Spore Trap Report Location**: 21007001-1-TM03LS

Fungi Identified	In	ıdo	00	r	sam	pl	e	sp	or	es/	m.	3	Raw	Spores/
	<10	0			1K			1	0K		>10	0K	count	m3
Generally able to grow indoors*														
Alternaria													ND	< 13
Bipolaris/Drechslera group													ND	< 13
Chaetomium													ND	< 13
Cladosporium													ND	< 13
Curvularia													ND	< 13
Nigrospora											\prod		ND	< 13
Penicillium/Aspergillus types†													ND	< 13
Stachybotrys													ND	< 13
Torula											\prod		ND	< 13
Seldom found growing indoors**														
Ascospores††											Ш	Ш	ND	< 13
Basidiospores††													1	53
Rusts													ND	< 13

Score
100
100
100
100
100
100
100
100
100
100
104
100
100
104

Location: 21007001-1-TM04LS

Smuts, Periconia, Myxomycetes††

Total

Fungi Identified	Indo	or sam	ple spore	s/m3	Raw	Spores/
	<100	1K	10K	>100K	count	m3
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					1	53
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					ND	< 13
Total						53

MoldSCORE; 100 200 300 Score									
			100						
			100						
			100						
			100						
			100						
			100						
			107						
			100						
			100						
			100						
			100						
			100						
			100						
Fina	107								

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Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSCORETM: Spore Trap Report Location: 21007001-1-TM05LS

Fungi Identified	Indo	Indoor sample spores/m3							Spores/
	<100		1K		10K	>	100	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								ND	< 13
Curvularia								ND	< 13
Nigrospora								ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††						П	Ш	ND	< 13
Basidiospores††						П		ND	< 13
Rusts						П	Ш	1	13
Smuts, Periconia, Myxomycetes††						П		1	13
Total			·						27

100 M	Score	
		100
		100
		100
		100
		100
		100
		100
		100
		100
		100
		100
		105
		102
Final N	MoldSCORE	102

Location: 21007001-1-TM06LS

Fungi Identified	Ind	oor sa	mple	Raw	Spores/		
	<100	1 K	-	10K	>1001	count	m3
Generally able to grow indoors*							
Alternaria						ND	< 13
Bipolaris/Drechslera group						ND	< 13
Chaetomium						ND	< 13
Cladosporium						ND	< 13
Curvularia						ND	< 13
Nigrospora						ND	< 13
Penicillium/Aspergillus types†						2	110
Stachybotrys						ND	< 13
Torula						ND	< 13
Seldom found growing indoors**							
Ascospores††						ND	< 13
Basidiospores††						ND	< 13
Rusts						ND	< 13
Smuts, Periconia, Myxomycetes††						ND	< 13
Total							107

MoldSCORE;									
400									
100	100 200 300								
			100						
			100						
			100						
			100						
			100						
			100						
			114						
			100						
			100						
			100						
			100						
			100						
			100						
Fina	114								

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Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

N/A

MoldSCORETM: **Spore Trap Report Location:** 21007001-1-TM07LS

Fungi Identified	Indoor sample spores/m3							Raw	Spores/
	<100		1K		10K	>1	00K	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								ND	< 13
Curvularia								ND	< 13
Nigrospora						Ш		ND	< 13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula						Ш		ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								ND	< 13
Rusts						П		ND	< 13
Smuts, Periconia, Myxomycetes††								ND	< 13

MoldSCORE; 100 200 300 Score							
	1						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
	100						
Final MoldSCORE	100						

Location: 21007001-1-TM08LS

Total

Fungi Identified	Indo	or samp	ole spores	s/m3	Raw	Spores/
	<100	1K	10K	>100K	count	m3
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					1	53
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					1	13
Total						67

MoldSCORE; 100 200 300 Score									
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			104						
			100						
			102						
Fina	104								

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Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSCORE™: Spore Trap Report Location: 21007001-1-TM09LS

Fungi Identified	Indoor sample spores/m3						Raw	Spores/	
	<100		1K		10K	>	100F	count	m3
Generally able to grow indoors*									
Alternaria								ND	< 13
Bipolaris/Drechslera group								ND	< 13
Chaetomium								ND	< 13
Cladosporium								ND	< 13
Curvularia								ND	< 13
Nigrospora								ND	< 13
Other brown								1	13
Penicillium/Aspergillus types†								ND	< 13
Stachybotrys								ND	< 13
Torula								ND	< 13
Seldom found growing indoors**									
Ascospores††								ND	< 13
Basidiospores††								1	53
Rusts								ND	< 13
Smuts, Periconia, Myxomycetes††								1	13
Total									80

100	MoldSC 200	ORE;	
100	200	300	beore
			100
			100
			100
			100
			100
			100
			105
			100
			100
			100
			100
			103
			100
			102
Fina	l MoldSC	ORE	107

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

[†]The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

^{††}Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.

880 Riverside Parkway, West Sacramento, CA 95605 (866) 888-6653 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSCORETM: Spore Trap Report

Outdoor Sample: 21007001-1-TM10OUTLS

Fungi Identified	Oı	ıtd	001	sar	nple	e spo	res	s/m	3	Raw	Spores/
	<10	0		1K		10K		>100)K	count	m3
Generally able to grow indoors*											
Alternaria										4	53
Bipolaris/Drechslera group										ND	< 13
Chaetomium					Ш					1	13
Cladosporium										35	1,900
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										19	1,000
Stachybotrys										ND	< 13
Stemphylium										2	27
Torula										4	53
Seldom found growing indoors**											
Ascospores††										27	1,400
Basidiospores††										27	1,400
Rusts										4	53
Smuts, Periconia, Myxomycetes††								\prod		24	320
Total											6,280

Location: 21007001-1-TM02LS

Fungi Identified	Indoor sample spores/m3								3	Raw	Spores/	
	<100		1	K			10K		>10	0K	count	m3
Generally able to grow indoors*												
Alternaria					Ш				Ш		ND	< 13
Bipolaris/Drechslera group									Ш		ND	< 13
Chaetomium									Ш		ND	< 13
Cladosporium											ND	< 13
Curvularia									Ш		ND	< 13
Nigrospora											ND	< 13
Penicillium/Aspergillus types†											ND	< 13
Stachybotrys											ND	< 13
Torula											ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											1	53
Rusts											ND	< 13
Smuts, Periconia, Myxomycetes††											ND	< 13
Total												53

100	MoldSCORE 100 200 300								
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			100						
			104						
			100						
			100						
Fina	l MoldSC(ORE	104						

880 Riverside Parkway, West Sacramento, CA 95605 (866) 888-6653 Fax (650) 829-5852 www.emlab.com

Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

< 13

53

MoldSCORETM: **Spore Trap Report Location**: 21007001-1-TM03LS

Fungi Identified	Indoor sample spores/m3								Raw	Spores/			
	<10	0			1K			1	0K	>10	0K	count	m3
Generally able to grow indoors*													
Alternaria												ND	< 13
Bipolaris/Drechslera group												ND	< 13
Chaetomium												ND	< 13
Cladosporium												ND	< 13
Curvularia												ND	< 13
Nigrospora										\prod		ND	< 13
Penicillium/Aspergillus types†												ND	< 13
Stachybotrys												ND	< 13
Torula										\prod		ND	< 13
Seldom found growing indoors**													
Ascospores††										Ш	Ш	ND	< 13
Basidiospores††												1	53
Rusts												ND	< 13

Score
100
100
100
100
100
100
100
100
100
100
104
100
100
104

Location: 21007001-1-TM04LS

Smuts, Periconia, Myxomycetes††

Total

Fungi Identified	Indo	or sam	ple spore	s/m3	Raw	Spores/
	<100	1K	10K	>100K	count	m3
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					1	53
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					ND	< 13
Total						53

100	MoldSCORE; 100 200 300 Score									
			100							
			100							
			100							
			100							
			100							
			100							
			107							
			100							
			100							
			100							
			100							
			100							
			100							
Fina	Final MoldSCORE									

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Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSCORETM: **Spore Trap Report Location:** 21007001-1-TM05LS

Fungi Identified	Ind	00	r	sam	ple	sp	ore	s/r	n3	}	Raw	Spores/
J	<100			1K		10	OΚ	>	100)K	count	m3
Generally able to grow indoors*												
Alternaria		Ш			Ш	Ш					ND	< 13
Bipolaris/Drechslera group											ND	< 13
Chaetomium		Ш			Ш	Ш					ND	< 13
Cladosporium											ND	< 13
Curvularia											ND	< 13
Nigrospora											ND	< 13
Penicillium/Aspergillus types†		Ш									ND	< 13
Stachybotrys											ND	< 13
Torula		\prod									ND	< 13
Seldom found growing indoors**												
Ascospores††											ND	< 13
Basidiospores††											ND	< 13
Rusts											1	13
Smuts, Periconia, Myxomycetes††											1	13
Total												27

100	RE;	Score					
100	200		Беоге				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			105				
			102				
Fina	Final MoldSCORE						

Location: 21007001-1-TM06LS

Fungi Identified	Indoor sample spores/m3								3	Raw	Spores/
	<100			ΙK		10K	3	>10	0K	count	m3
Generally able to grow indoors*											
Alternaria										ND	< 13
Bipolaris/Drechslera group								Ш		ND	< 13
Chaetomium										ND	< 13
Cladosporium										ND	< 13
Curvularia										ND	< 13
Nigrospora										ND	< 13
Penicillium/Aspergillus types†										2	110
Stachybotrys										ND	< 13
Torula										ND	< 13
Seldom found growing indoors**											
Ascospores††										ND	< 13
Basidiospores††										ND	< 13
Rusts										ND	< 13
Smuts, Periconia, Myxomycetes††										ND	< 13
Total											107

100	MoldSCORE; 100 200 300 Score									
			100							
			100							
			100							
			100							
			100							
			100							
			115							
			100							
			100							
			100							
			100							
			100							
			100							
Fina	115									

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Client: Hygiene Technologies International, Inc.:

Northern California

C/O: Mr. Wesley Frey, Mr. Larry Sandhu

Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

N/A

MoldSCORETM: **Spore Trap Report Location:** 21007001-1-TM07LS

Fungi Identified Indoor sample spor				s/m3	Raw	Spores/
	<100	1K	10K	>100K	count	m3
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					ND	< 13
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					ND	< 13

MoldSCORE; 300 Score					
	1				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
	100				
Final MoldSCORE	100				

Location: 21007001-1-TM08LS

Total

Fungi Identified	Indo	or samj	ple spore	s/m3	Raw	Spores/
	<100	1K	10K	>100K	count	m3
Generally able to grow indoors*						
Alternaria					ND	< 13
Bipolaris/Drechslera group					ND	< 13
Chaetomium					ND	< 13
Cladosporium					ND	< 13
Curvularia					ND	< 13
Nigrospora					ND	< 13
Penicillium/Aspergillus types†					ND	< 13
Stachybotrys					ND	< 13
Torula					ND	< 13
Seldom found growing indoors**						
Ascospores††					ND	< 13
Basidiospores††					1	53
Rusts					ND	< 13
Smuts, Periconia, Myxomycetes††					1	13
Total						67

MoldSCORE; 100 200 300 Score							
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			100				
			104				
			100				
			102				
Fina	104						

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Re: 21007001-1

Date of Sampling: 07-19-2010 Date of Receipt: 07-19-2010 Date of Report: 07-20-2010

MoldSCORETM: **Spore Trap Report Location:** 21007001-1-TM09LS

Fungi Identified	Ind	Indoor sample spores/m3			Raw	Spores/				
	<100			1K	1	0K	>1	100K	count	m3
Generally able to grow indoors*										
Alternaria									ND	< 13
Bipolaris/Drechslera group									ND	< 13
Chaetomium									ND	< 13
Cladosporium									ND	< 13
Curvularia									ND	< 13
Nigrospora									ND	< 13
Other brown									1	13
Penicillium/Aspergillus types†									ND	< 13
Stachybotrys									ND	< 13
Torula									ND	< 13
Seldom found growing indoors**										
Ascospores††									ND	< 13
Basidiospores††									1	53
Rusts									ND	< 13
Smuts, Periconia, Myxomycetes††							\prod		1	13
Total										80

MoldSCORE:						
100 200						
		100				
		100				
		100				
		100				
		100				
		100				
		105				
		100				
		100				
		100				
		100				
		104				
		100				
		102				
Final MoldS	CORE	107				

^{*}The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

^{**}These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

[†]The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

^{††}Most of these spore types are not seen with culturable methods (Anderson sampling), although some may appear as non-sporulating fungi. Most of the basidiospores are "mushroom" spores.





giene Technologies International, Inc. 3625 Del Amo 6

3625 Del Amo Boulevard, Sulte 180 Torrance, California 90503-1643 (310) 370-8370 (310) 370-2474 FAX www.hygienetech.com

Request For Analysis

Project Number/Purchase Order: 2100 7001 - Date Submitted: 7[19]10						
Project Contact: L. San Ilu / W Fr6 y			Turnaround Required:			
Lab Destination:			Lab Contact: Sample Roce Ning			
SAMPLE ID	· VOLUME	MEDIA	ANALYSIS REQUESTED			
21007201-1 Tradoutes	756	Mrocall	SPV86 Toap			
TM 0265	1.					
- TROSLS	-	- 				
THOULS	1					
TMOSLS		·				
1m1615						
- TMD7 LS						
7170965						
TMIDOUELS	7					
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•	-					
Cassial Tastanations	271 K-	Laure Marc	6 666 1220 - Cut \(\sum_{\text{\ti}\text{\texi{\text{\texi{\text{\ti}}\tint{\text{\tin}\text{\text{\text{\ti}\tint{\text{\text{\text{\text{\text{\text{\texi}\text{\texi}\titt{\text{\texititt{\text{\texi{\texi{\texi{\texi\tint{\tiint{\titt{\text{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\tii}}\			
Special Instructions:	1, 00 A	(0(3x - 150	e-occupancy I-A-Q			
1. Sampled by: 5 10 10 04 7 19 10 @ 9:4 Received by:						
2. Relinquished by: # Im Jung 191084: 5 Received by: 57910 2397						
3. Relinquished by: Received by:						
Please include signature, date, and time						
Lab Use Only:						
tgata - t - ■			·			